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ABSTRACT

A study evaluated the effectiveness of the Stephen August Early Intervention Center in Cheshire, Connecticut, an early intervention center serving children with developmental delays or at risk for developing such delays, and their families. Data on 130 center participants' later special or regular education status, and a teacher rating of students' social competence were obtained. At the time of early intervention, 42 percent of the sample had shown mild developmental problems, 44 percent had shown moderate problems, and 14 percent had shown severe problems. The average number of months of early intervention involvement was 22.6. At the time of the study, the graduates were in kindergarten through third grade. It was found that 102 of the graduates were in regular education classes without special education services, while only 28 were receiving special education services. Results offer strong support for the effectiveness of the center. The early intervention center offers parents an informal play assessment of their child's developmental status by a team of early childhood developmental specialists with whom the parents can discuss their developmental concerns. When children show developmental delays or appear to be at risk for the development of delays, a variety of program options are available. (RH)

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ABSTRACT

An Evaluation of the Social and Personal Competence of Special Needs Early Intervention Graduates

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The Special Education or Regular Education status and a teacher rating of social competence were determined for 130 graduates of an early intervention program. At the time of early intervention 42% had shown mild developmental problems, 44% had shown moderate developmental problems, and 14% had shown severe developmental problems. The average number of months of early intervention involvement was 22.6. At the time of the study the graduates were in grades K-3.

It was found that 78% (102) of the graduates were in regular education classes without special education services while only 22% (28) were receiving special education services. Teacher ratings of social and personal competence using the Health Resources Inventory (HRI) were obtained and the scores of program graduates were compared with 99 regular education students and 31 special education students who had not received early intervention. Teacher ratings of parent involvement and achievement test scores for Grade 3 children also were obtained.

Analysis of the personal and social competence ratings indicated that, without regard to early intervention status, regular education students were rated significantly higher than special education students. In addition, early intervention graduates who currently were enrolled in regular education classrooms were not rated differently than regular education nongraduates. Compared with the published norms for the HRI scale, regular education graduates and nongraduates were both rated as highly competent.

Early intervention graduates who currently were receiving special education services were rated the same on the HRI as special education students who were not early intervention graduates. Both groups of special education students rated above the published norms for the HRI indicating a good level of personal and social competence.

Early intervention graduates who currently were enrolled in regular education classes had initial Severity Ratings which were significantly lower than graduates enrolled in special education. Severity Ratings in the preschool years were significantly correlated with HRI scores.

Analysis of teacher ratings of parent involvement indicated greater parent involvement for the parents of early intervention graduates. Additionally, achievement test scores for early intervention students in Third Grade were not significantly different from the comparison group which had not received early intervention. Both groups performed above national norms.

The pattern of results offer strong support for the effectiveness of the early intervention program which these students had attended.

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Special needs preschool children have needs with respect to achieving both intellectual competence and social/personal competence. Early intervention programs should address both needs. While the assessment of intellectual competence has been accomplished by intelligence and achievement tests, the assessment of social/personal competence has been relatively lacking. Zigler & Trickett (1978) have urged the evaluation of intervention programs to include more ways of measuring social competence. While Zigler & Trickett were referring to early intervention with socially disadvantaged children, the same issue is a concern when evaluating the programs for special needs children. The present study is concerned with assessing the impact of early intervention on the social and personal competence of special needs young children. Since the children of concern in this study have "graduated" from early intervention, this is a follow-up study. In addition, because the early intervention program from which the children "graduated" is developmentally oriented and includes high levels of parent involvement, it is an evaluation of a special type of early intervention. This is one of a series of studies conducted to evaluate the early intervention program in Cheshire, Connecticut (Corsini & Rothchild, 1979; Corsini & Rho, 1988).

During the 1989-90 school year 130 graduates from the Cheshire, Connecticut early intervention program were located in the Cheshire school system. The purposes of the study were: first, to determine how many of the graduates were receiving special education services (Special Ed) and how many were NOT receiving special education services (Regular Ed); and second, to compare the personal and social competence of both types of graduates to Special Ed and Regular Ed children who had not received early intervention at the Stephen August Early Intervention Center.

The Stephen August Early Intervention Center in Cheshire, Connecticut serves families with children from birth to age 5 in two ways. First, it offers parents an informal play assessment of their child's developmental status by a team of early childhood developmental specialists with whom the parents can discuss their developmental concerns. Second, when children show developmental delays or appear to be at risk for the development of delays, a variety of ongoing program options are available. Only children with current developmental delays or children who are at risk for the development of a delay become involved in the ongoing programs. This study is about graduates of the ongoing programs of the Stephen August Early Interventon Center. The children should be considered to have been a high risk group for both special education services and for problems with personal and social adjustment. The purpose of the programs at the Early Intervention Center is not to "cure" children or to make every child achieve to age and grade level. For many of the children this would be an unreasonable expectation. The purpose of the early intervention programs is to work, on a team basis, with parents to create the conditions under which children will make the most of their potential and , most importantly, to help the children feel good about themselves. The study of the graduates was conducted to find evidence concerning the success or failure of the program.

The intervention program at the Steven August Early Intervention Center has the following characteristics. All programs are developmentally oriented around play. Environments are created to involve children in play and allow developmental abilities to be stimulated naturally through child motivated involvement in play. There is no focus on special skill training and no focus on specific behavior domains to the exclusion of others.

There are a number of program options with respect to amount of time and number of days. Infants usually attend once a week for two hours; two and three year old children usually attend three times a week for 2 1/2 hours; and four and five year olds usually attend five days a week for 2 1/2 hours. Parents are intimately involved with the program. Parents of the younger children attend every time the child attends. Parents of older children who have been involved in the program for a period of time usually attend once or twice a week. The program is transdisciplinary. Early childhood and special education teachers, occupational and physical therapists, speech pathologists, and school psychologists work in the classrooms with children and parents. Most children are involved with other child care or preschool programs within the community.

Several approaches were taken to determine the degree to which the early intervention programs had been effective. The first was to determine the number of graduates who were receiving their education in the first few elementary grades with and without the support of special education services. The ability to receive education without special education services was viewed as one measure of the children's personal and social competence (Weikart, et. al.,1978). The second way of assessing program success was to examine how teachers perceived the personal and social competence of the graduates and how the personal and social competence of program graduates compared with the rated competence of children who had not been in the early intervention program. For this purpose the Health Resources Inventory (Gesten, 1976) was used by the teachers to rate the children on social and personal competence. A third assessment of program success was to examine the teachers' perceptions of parent involvement. A fourth area examined for indications of program success was Grade 3

achievement test data.

The Health Resources Inventory

The Health Resources Inventory (HRI) is a teacher rating measure of elementary school aged children's personal and social competence. Unlike traditional measures of problem behaviors and maladjustment, the HRI was designed to measure the degree of positive healthy adjustment. The teacher is asked to rate a child on the percent of time the child does 44 specific, positively stated behaviors. The teacher rates each behavior at one of five frequency levels: Not at all; about 25% of time; about 50% of time; about 75%; and 100% of the time. Factor analysis of the 44 items in the original research by Gesten showed the instrument to have five factors. These factors, with two example behaviors given for each, are:

Good Student

Is a self-starter. Works up to potential.

Gutsy

Expresses ideas willingly. Expresses needs and feelings appropriately.

Peer Sociability

Is a happy child. Well liked by classmates.

Rules

Is well-behaved in school. Follows class rules.

Frustration Tolerance

Accepts criticism well. Copes well with failure.

In addition to rating the 44 items from the HRI, the teachers in the present study were asked to indicate on a seven point scale how well they knew the child and the child's parent(s) and to rate six aspects of their knowledge and interaction with parents. The purpose of the latter ratings was to explore whether parents of children who had come through the early

intervention program had a different kind of relationship with teachers than other parents. The specific questions on parents will be given below.

The Children

Within the Kindergarten to Grade 3 classrooms of the Cheshire schools 130 graduates of the Stephen August Early Interventicn programs were found. There had been 55 other students of the correct age range who had attended the early intervention program but were not currently in the school system. Of these it was determined that 54 had moved and only 1 student was outplaced for educational services.

The distribution across grades of the 130 graduates was: Kindergarten-27; Transition-12; First Grade-33; Second Grade-32 and Third Grade-26. Of these 130 children only 28 were registered in the offical special educational system as determined by checking the names reported to the State of Connecticut Department of Education for reimbursement purposes. Thus, a remarkable 78% of the children who had received programing at the Stephen August Early Intervention Center were not receiving special education services. It is interesting and important to note that the graduates had been involved to a high degree in early intervention. The average number of months in the program was 22.6. This degree of early intervention involvement indicates that the children at the time of early intervention were showing significant developmental delays or presenting significant reason for concern. Thus, of the 130 program graduates who were located 102 were not receiving special education services and only 28 were receiving special education services. One student was outplaced in special education.

In order to compare the social and personal competence of the program graduates, data on two comparison groups were obtained. One comparison

group was of children in regular education who had not received services at the Stephen August Early Intervention Center- a "normal" control group. These children were selected by having teachers who rated a program graduate rate a child of the same sex in their classroom who was not a program graduate or a special education student. The teachers who participated in the study were sent a packet containing rating scales for specific students in their classroom. Some of the students were graduates and some were not. In this way a sample of 99 regular education students without a history of early intervention services was obtained. The teachers were told the purpose of the study but were not told which students had received early intervention services. However, it is not claimed that the teachers were completely unaware of who had or had not received early intervention services.

All students who were special education students in Kindergarten through Grade 3 were identified and rated by the teacher who knew them best. This involved 59 students--28 of whom were program graduates and 31 who were not. The complete breakdown of the sample with respect to Early Intervention Graduate Status, Current Type of Education Program, Grade, and Sex is given in Table 1.

Insert table 1 about here

SEVERITY RATING STATUS DURING PRESCHOOL YEARS

As part of the Consultation Center process at the Stephen August Early Intervention Center an assessment team rates the child with respect to the degree of delay/risk in 7 areas. After the 7 areas are rated, the assessment team considers all factors together and arrives at an overall

Severity Rating of the child's delay/risk status. The Severity Rating (Corsini, 1984) is a ten point scale with 0 indicating no noticeable delay/risk; 1-3 indicating mild delay/risk; 4-6 indicating moderate delay/risk; and 7-9 indicating severe delay/risk. The Severity Ratings of 81/130 children who are of concern in this study were found. This represents 62% of the sample. The number of program graduates who were in the mild, moderate, and severe categories at the time of involvement in early intervention is presented in Table 2.

Insert table 2 about here

Table 2 also shows the number of children subsequently receiving and not receiving special education services in relationship to initial severity category.

Insert Table 2 about here

Table 2 shows that overall about 42% of the graduates had shown mild developmental delays, 44% had shown moderate delays, and 14% had shown severe delays. As might be expected, the group of graduates who later were receiving special education services at K-3 showed significantly higher severity ratings during the preschool years. The average Severity Rating of the children receiving special education services had been 5.31 while the average rating of graduates not receiving special education services had been 3.85. This difference is statistically significant ($t = 2.94$ $p < .004$). The important fact to note is that this study is of a group of children who during the preschool years were demonstrating a high degree of

developmental delay/risk.

TEACHER RATINGS OF PERSONAL AND SOCIAL COMPETENCE

In the original report on the Health Resources Inventory Gesten (1976) reported several ways in which the measure had demonstrated validity. First, the HRI significantly discriminated between a group of normal elementary school children and a group of elementary school children who were in therapeutic educational placement because of severe emotional problems. More impressive was the fact that the measure was able to differentiate between children with different competency levels within the normal range. For this validity test pairs of teachers, who knew children in the same classroom, were used. One teacher nominated three high competent children, three middle competent children, and three low competent children in the classroom. The second teacher filled out the HRI on the children without knowing what the first teacher had done. The three groups of students were rated at statistically significant different levels on all five subscales and the total score of the HRI. Thus, the HRI rating scale has demonstrated the ability to differentiate level of competence both between a normal and deviate group and between different levels of competence within a normal group. Mean scores from this original report will be used for comparison in the present study.

Special Education vs. Regular Education Students

The first comparison to be reported compared the average rating received by all 59 special education students with the average rating received by all 201 regular education students. This analysis showed that teachers rated regular education students higher than special education students on all five subtests and the total score of the HRI. These means are presented in Table 3.

Insert table 3 about here

All differences between the means were statistically significant beyond the .001 level. Thus, for the Cheshire sample the rating scale did differentiate between regular and special education students. The second question concerned whether program graduates were differentiated from nongraduates in both regular and special education. The mean scores of the four groups are presented in Table 4.

Insert table 4 about here

The 102 program graduates who were not receiving special education services were compared with the 99 regular education controls who were not program graduates. There were no statistically significant differences on any subscale or total score. Thus, the Stephen August Early Intervention graduates who were not receiving special education services were indistinguishable from the nongraduate children in terms of teacher ratings of personal and social competence. Although data of this type does not prove a cause-effect relationship, we believe that the early intervention program had a significant impact on the social and personal competence of the children. Additionally, we believe that it is the high level of social and personal competence which is primarily responsible for the children's ability to receive education without the support of special services.

Statistical comparisons also were made between the special education children who were program graduates and those who were not. No statistically significant differences were found. Thus, while regular and

special education students as a group were significantly different from each other, no HRI differences within groups were found on the basis of a history of early interventon involvement.

COMPARISON OF CHESHIRE SCORES WITH HRI NORMS

For comparison purposes the mean subtest and total scores from the original Gesten article are presented in Table 5. Four sets of means are presented for comparison purposes: Normal comparison; special education; high competent group; low competent group. While no statistical tests were performed to compare ratings in the current study with those of the original study, inspection of the patterns is interesting.

Insert table 5 about here

First, when the ratings of the two Cheshire regular education groups (Graduates and Nongraduates) are compared to the published norms, it is clear that the Cheshire children are rated much higher in personal and social competence than the normative control group. The average score of Cheshire Regular Education children is most similar to the norm group which was independently selected by teachers as being highly competent.

Even the two groups of Cheshire special education students are rated higher than the original normative group. Inspection of the four types of norms and comparison of the Cheshire Special Education student scores indicates that the Cheshire Special Education students fall between the Unselected Normative and the Selected High Competent groups.

The original study by Gesten was conducted in the early 1970's in Rochester New York public schools. The report states that there was a mixed socioeconomic group of children. The higher score of Cheshire children both

in regular education and special education is a positive sign. Even though within Cheshire the regular education students score significantly higher than the special education students, the Cheshire special education students compare favorably to published norms. This means that the Cheshire special education students appear to be viewed by teachers as relatively high with respect to personal and social competence.

SEVERITY RATINGS AND HRI SCORES

In order to determine whether inital Severity Ratings made during the preschool years were related to subsequent teacher ratings of personal and social competence, initial Severity Ratings were correlated with HRI scores. These correlations were made without regard to whether the graduates were or were not receiving special education services. The correlations of Severity Rating with each of the subscales and total score of the HRI are presented in Table 6.

Insert table 6 about here

Inspection of Table 6 reveals that substantial and statistically significant negative correlations were obtained between initial Severity Ratings and all subscales and total score of the HRI. Thus, the higher the Severity Rating had been for the children during the preschool years, the lower had been their subsequent rating on personal and social adjustment. There are two noteworthy aspects to this finding.

First, the correlation over a several year period offers support for the validity of the initial Severity Ratings. Those children who, during the preschool years, were rated as showing greater delays and greater risks for development were rated, after a period of several years, as having

poorer personal and social competence.

Second, even though the Severity Ratings were correlated with later HRI scores, the graduates who were not receiving special education, as a group, were not statistically different in personal and social competence from a regular education group who had not received early intervention. This indicates that the Regular Education graduates had an average HRI score that was like the average for the normal control group. However, variation of individual child scores from the average score was still related to how they had been rated with respect to severity in the preschool years. Another way to describe this is to say that the differences between children had not been eliminated but the group as a whole was able to show an average score within the normal range.

LENGTH OF EARLY INTERVENTION AND HRI SCORES

Although the number of months the children had been in early intervention averaged 22.6 months, the range of involvement was 3 to 47 months. Correlations were performed between length of involvement with the early intervention program and teacher ratings of competence. Table 7 presents these correlations separately for Regular Education and Special Education graduates.

Insert table 7 about here

As can be seen from inspection of Table 7, the scores on all subscales (except Peer Sociability for the Special Education graduates) and the Total Score are significantly correlated with months of involvement with the early intervention program. Many of these correlations are impressively high. This pattern means that the longer the children were involved in the

early intervention program the more highly they were rated by teachers on all aspects of personal and social competence. This finding is strong support for the effectiveness of the early intervention program and for the initiation of intervention at the earliest possible time.

PARENT INVOLVEMENT

Teachers answered six questions about the parents of the children that were rated. Although not part of the HRI, the questions on parents were asked to examine whether program graduate parents were viewed by teachers as different in some way from parents of other children. One reason for asking this type of question was the fact that the Stephen August Early Intervention programs work with parents as part of the team. This part of the evaluation was seeking evidence that the impact on parents could be seen through the eyes of teachers.

For each of the six questions about parents the teachers were asked to give a number from 0- indicating NOT AT ALL to 7- indicating VERY WELL (MUCH). Comparisons were made on the 6 questions between Regular Education graduates and Regular Education nongraduates and between the two special education groups. Few of the differences between groups on these six questions were statistically significant. However, the failure to find many significant differences seems to be attributed to a high level of teacher knowledge and comfort with all parents. There were a few statistically significant differences in the teacher ratings of Regular Education graduate and nongraduate parents. The six questions will be presented to illustrate both the high degree of teacher-parent comfort in the school system in general and the few differences which emerged.

1. How well do you know the child's parent(s)?

The mean score on this for all parents rated was 4.36. This indicates

that teachers felt moderately knowledgeable of parents (possible range of scores 0-7). It was on this item that a significant difference was found between graduate and nongraduate Regular Education parents. Teachers reported knowing program graduate parents (4.67) better than nongraduate parents (4.14). This statistically significant difference indicates that parents of program graduates are making themselves known to teachers. However, there is still room for more knowledge of parents by teachers. For example, teachers indicated that they "knew well" (rated at 6 or 7) only 37% of the program graduate parents and 20% of the nongraduate parents.

2. To what extent do you feel that the parents cooperate with the educational plan of this child?

The average score for all ratings on this item was 5.44. This indicates that teachers perceive a fairly high level of cooperation from parents. There were no significant differences between groups on this item.

3. To what extent do the parents participate in school activities?

The average score on this item was 4.68. This indicates a degree of parent participation above the midpoint of the scale with room for improvement. There were no differences between groups on this item.

4. To what extent do the parents communicate their ideas and concerns to you on their own initiative?

The average score on this item was 4.96 which indicates a fairly high degree of parent initiative generally. Interesting, it is on this item that the difference between graduate and nongraduate Regular Education parents approached significance. Teachers rated graduate parents (5.4) higher on this item than nongraduate parents (4.8).

5. To what extent do you respect the validity of parent's requests associated with the child's learning needs and style?

The average score on this item was 5.48 and there were no group differences.

6. How useful has the information provided by the parents been to you in the classroom?

The average score on this item was 5.25 and there were no group differences.

7. How comfortable do you feel calling the parent at anytime?

The average score of this item was 6.08 indicating that the teachers felt very comfortable calling most parents. There were no group differences on this item.

The impression from the ratings on parents on these questions is that teachers generally have a positive relationship with most parents-- regular and special education--program graduate or not. Even within this context of generally positive teacher-parent interaction there was some indication that teachers had a more positive relationship with Regular Education program graduate parents. Program graduate parents were rated as being more known by teachers and tended to communicate their ideas and concerns to teachers on their own initiative to a higher degree. These findings are taken as an indication of the positive impact which the early interventon programs at the Stephen August Early Intervention Center have on parents.

Parent Ratings and HRI Scores

Is there a relationship between teacher rating of their relationship with parents and their rating of the children on the Health Resources Inventory? A score was derived by adding the six ratings on parents made by the teacher. This total score indicated the degree to which there was a positive interaction/relationship with parents as perceived by the teacher. This score was then correlated with subscales of the HRI. For the sample

as a whole, there was a significant positive relationship between the degree to which the teacher rated the relationship with parents as positive and the degree to which children were rated as having positive social and personal competence. There was a statistically significant relationship with all subscales and the relationships were moderate in degree (.25 to .39).

While this data cannot be used to imput a causal relationship between positive teacher-parent relationship and social and personal competency in children, the data indicate that there is an association. This association supports the notion that the social and personal adjustment and development of children will be helped by building a positive relationship between parents and teachers. A positive parent/staff relationship is the central core of the early intervention programs at the Stephen August Early Intervention Center. One of the hopes of the early intervention programs is that parents will seek to maintain similar relationships with subsequent teachers of their children. The data from the present study indicate that they do.

Other Findings

Achievement Test Scores

California Achievement Testing is performed in the Cheshire school system at Third grade. These scores were available for 22 children who were Chapter I program graduates and 23 comparison children who had not been high risk at preschool age. The mean percentile scores of these two groups on the major subtests and total test are presented in Table 8.

Insert table 8 about here

While the scores present in Table 8 indicate that both groups performed above the 50th percentile on all subtests and the total battery, there were no statistically significant differences between the group which had received early intervention and the group which had not. These results are further indication that the early intervention was effective in allowing students to realized their academic potential.

SEVERITY RATINGS

Severity rating comparisons were made between graduates who were receiving special education services and those who were not. As previously indicated, there was a statistically significant difference between the two groups in overall rating of severity. Those graduates receiving special education services had a average Severity Rating during the preschool years of 5.31 and those not receiving services had an average score of 3.85. Comparisons also were made on the 7 developmental areas included in the more specific scale. In each of the 7 areas the raters had judged whether or not the child was demonstrating a delay/risk and, if so, how major the problem appeared. Each area was rated on a 6 point scale--no problem to major problem. There were statistically significant differences between the two groups of graduates on 4 of the 7 scales. There were statistically significant differences on Sensory Systems, Motor, Cognition, and Language. All differences showed the Special Ed group to have been rated as having more delay/risk during the preschool period. Although the Special Ed group also had higher scores in the three areas of Health, Socio-emotional Development, and Parent-child Relationship, the differences were not statistically significant.

What could this pattern of differences and no differences indicate? First, the pattern appears to indicate that important differences between

children during the preschool period are detectable by early childhood specialists. When children are rated by specialists as having problems in the area of sensory, motor, cognitive, and language development, there is increased indication that these children will need special education help during elementary school years. Should early intervention be expected to eliminate the need for special education services later on? Given the nature of the problems presented by these children as a group, complete elimination of problems is not a reasonable expectation. Successful early intervention should decrease the number of children needing future intervention and decrease the seriousness and amount of resources needed by others later. In addition, early intervention also should be evaluated in terms of its influence on the quality of life for children, parents, and families at the time of involvement in the program. This important dimension of early intervention is not addressed in this study.

SUMMARY

During the 1989/90 school year 130 graduates of the Stephen August Early Intervention Center in Grades K-3 were found in the Cheshire school system. Fifty-four other students had moved out of town and one student was outplaced in special education. It was determined whether the 130 graduates were in special education or regular education and the graduates were rated by teachers on a standardized test of personal and social adjustment. The personal and social adjustment of these graduates was compared to 99 regular and 31 special education children who had not come through early intervention. Comparisons between groups also were made on teacher ratings concerned with the parents of the children. The California Achievement Test performance of 22 graduates who were in Third Grade was compared with the achievement test performance of Third Grade comparison

students who were not program graduates. The main findings of the study were:

1. 78% (102) of the graduates were in regular education classes without special education services and only 22% (28) were receiving special education services.

2. Teacher ratings of personal and social competence indicated that Center graduates in regular education were as competent as regular education students who were not Center graduates. All regular education students, both Center graduates and non-graduates, were rated as highly competent according to the norms of the test.

3. Teachers rated the personal and social competence of special education students as significantly lower than that of regular education students. There was no significant difference between the special education students who were and were not Center graduates. Cheshire special education students were rated as higher than average in personal and social competence according to the established norms of the test.

4. Teacher ratings of personal and social competence were correlated significantly with the length of time children had been in the early intervention program. With overall adjustment score the correlation was $r = .71$ ($p < .001$). The correlations were high whether or not the children were in regular or special education. The children had been involved in the early intervention program for from 3 to 47 months with an average of 22.6 months. The longer the early intervention the higher were the teacher ratings of personal and social competence.

5. Teacher ratings of personal and social competence were correlated significantly to ratings of "severity of delay/risk" made during the time of involvement in early intervention. The higher the initial rating of

severity the lower was the subsequent rating by teachers of personal and social competence: $r = -.53$, $p < .001$.

6. The children who were treated at the Center had been rated as having mild, moderate, or severe degree of risk. Another indication of program success is the fact that 70% of the children rated as having a moderate or severe delay/risk during the preschool years were in regular education classes after intervention.

7. The teacher ratings of parents provided indiction that the parent focus of the early intervention program was effective. Teachers indicated they knew program graduate parents better than nongraduate parents.

8. Another indication that parent involvement is important for children came from the finding that teacher ratings of parent involvement were correlated significantly with teacher ratings of child personal and social competence. Thus, the degree of parent involvement and the degree of child competence were related.

9. For the group of 22 program graduates who had reached Third Grade the mean percentile score for the Total Battery on the California Achievement Test was 66.57. This is well above the national mean score which is 50. The CAT performance of the program graduates was not significantly different from the mean performance (64.74) of comparison students (N=23) who were not program graduates.

10. The significance of these findings must consider both the psychological and the financial benefits. The psychological benefits include not only the fact that a dramatically high percent of the children served at the Stephen August Early Intervention Center went on to participate in the mainstream education programs but also that the children and their families received support and assistance when they were in need. It is difficult to put a

monetary value on the improvement in the quality of life which has been created for these families.

11. How does one figure a cost/benefit analysis of an early intervention program? The costs of the Stephan August Early Intervention Program are considerable but the services provided are numerous. Considering that a special education student costs 2 to 2 1/2 times that of a regular education student, the fact that 78% of this high risk group did not require special education services must be financially significant.

12. Finally, these data offer support for the developmental, parent involvement type of early intervention which these children attended. Play-oriented, whole-child early intervention involving parents in the classroom (as opposed to skill-oriented and parent-excluded intervention) was the type of early intervention to which children in this study were exposed. While no direct comparison of type of early intervention was shown in this study, the present study offers strong support for the effectiveness of play-oriented and parent-involved early intervention and is supportive of similar findings with socially disadvantaged children (Schweinhart, Weikart, and Larner, 1986).

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Table 1

Distribution of Students by Graduate Status/Educational Program/ Grade/Sex

	REGULAR ED GRADS		REGULAR ED NON-GRADS		SPECIAL ED GRADS		SPECIAL ED NON-GRADS	
SEX	M	F	M	F	M	F	M	F
GRADE								
KINDERGARTEN	16	05	17	05	05	01	01	00
TRANSITION	11	00	08	00	01	00	00	00
FIRST	18	09	17	08	05	01	04	05
SECOND	18	03	18	03	11	00	08	03
THIRD	14	08	15	08	03	01	06	04
Total	77	25	75	24	25	03	19	12

Table 2

Graduate Severity Rating At Time of Early Intervention

	SEVERITY RATING		
	MILD N (%)	MODERATE N (%)	SEVERE N (%)
TOTAL SAMPLE*	34 (42%)	36 (44%)	11 (14%)
REGULAR ED*	29	28	05
SPECIAL ED*	05	08	06

*Ratings were found for 81/130 graduates or 62%. 61% of REGULAR ED graduates and 68% of SPECIAL ED graduates.

Table 3

HRI Mean Scores for REGULAR ED and SPECIAL ED Cheshire Children

	REGULAR ED CHILDREN	SPECIAL ED CHILDREN
N	201	59
HRI SCALE		
Good Student	4.49	3.23*
Gutsy	4.21	3.46*
Peer Sociability	5.21	4.61*
Rules	3.81	3.25*
Frustration Tol.	4.23	3.25*
Total	21.82	17.90*

* $p < .001$

Table 4

HRI mean scores for 4 Groups of Cheshire Children

	REGULAR ED GRADS	REGULAR ED NON-GRADS	SPECIAL ED GRADS	SPECIAL ED NON-GRADS
N	102	99	28	31
HRI SCALE				
Good Student	4.49	4.50	3.01	3.38
Gutsy	4.14	4.29	3.31	3.59
Peer Sociability	5.12	5.30	4.49	4.17
Rules	3.83	3.80	3.09	3.37
Frustration Tol.	4.10	4.37	3.46	3.10
Total	21.45	22.26	17.76	17.99

Table 5

HRI mean scores for 4 Groups from Gesten(1976)

	UNSELECT NORMATIVE	EMOTIONAL DISTRUBED	SELECTED HI COMPETENT	SELECTED LOW COMPETENT
N	58	42	30	30
HRI SCALE				
Good Student	2.28	1.86	3.47	1.40
Gutsy	3.14	2.49	3.76	2.49
Peer Sociability	4.32	3.47	5.09	4.05
Rules	2.97	2.36	3.83	3.41
Frustration Tol.	2.52	1.03	3.33	1.57
Total	15.24	11.21	19.50	12.17

Table 6

Correlations Between Initial Severity Ratings and HRI Scores

HRI SCALE	REGULAR ED	SPECIAL ED	ALL
Good Student	-.40*	-.31	-.50***
Gutsy	-.11	-.48*	-.34**
Peer Sociability	-.18	-.39	-.33**
Rules	-.40**	-.17	-.45***
Frustration Tolerance	-.32	.16	-.29*
HRI Total	-.43*	-.50*	-.53***

* $p < .05$

** $p < .01$

*** $p < .001$

Table 7

Correlations Between Months in Early Intervention and HRI Scores

HRI SCALE	REGULAR ED	SPECIAL ED	ALL
Good Student	.72***	.61**	.72***
Gutsy	.70***	.63**	.70***
Peer Sociability	.55***	.36	.55***
Rules	.37***	.39*	.37***
Frustration Tolerance	.70***	.75***	.70***
HRI Total	.71***	.59*	.71***

* $p < .05$

** $p < .01$

*** $p < .001$

Table 8

Grade 3 Mean Percentile Scores on the California Achievement Test

	Graduates (N=22)	Comparison (N=23)
Total Reading	62.75	66.52
Total Language	69.86	65.24
Total Math	64.59	56.44
Total Battery	66.57	64.74

All differences between groups were not statistically significant